ABSTRACT

A piston pump delivers precise and repeatable volumes of a fluid from a reservoir to a downstream component, and includes a piston that is rotatably and reciprocally mounted within a cylinder. The outer periphery of the piston forms an interference fit with the inner periphery of the cylinder. At least one groove is formed in the outer periphery of the piston, with the groove defining a precise volume between the piston and the cylinder, and extending in an axial direction of the piston. The cylinder includes an inlet port for providing fluid communication between a reservoir and the at least one groove when the piston is in a first position, and an exit port circumferentially spaced from the inlet port for providing fluid communication between the at least one groove and a downstream component when the first piston is rotated to a second position where the at least one groove is aligned with the exit port.